

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Original) A fluorescent protein derived from *Montipora* sp., which has the following properties:

- [1] the excitation maximum wavelength is 507 nm;
- [2] the fluorescence maximum wavelength is 517 nm;
- [3] the molar absorption coefficient at 507 nm is 104,050;
- [4] the quantum yield is 0.29; and
- [5] the pH sensitivity of light absorption property is pKa of approximately 5.5.

2. (Original) A fluorescent protein derived from *Acropora* sp., which has the following properties:

- [1] the excitation maximum wavelength is 505 nm;
- [2] the fluorescence maximum wavelength is 516 nm;
- [3] the molar absorption coefficient at 505 nm is 53,600;
- [4] the quantum yield is 0.67; and
- [5] the pH sensitivity of light absorption property is pKa of approximately 6.4.

3. (Original) A fluorescent protein derived from *Acropora* sp., which has the following properties:

- [1] the excitation maximum wavelength is 472 nm;
- [2] the fluorescence maximum wavelength is 496 nm;
- [3] the molar absorption coefficient at 472 nm is 27,250;
- [4] the quantum yield is 0.90; and
- [5] the pH sensitivity of light absorption property is pKa of approximately 6.6.

4. (Original) A fluorescent protein derived from *Montipora* sp., which has the following properties:

- [1] the excitation maximum wavelength is 557 nm;
- [2] the fluorescence maximum wavelength is 574 nm;
- [3] the molar absorption coefficient at 557 nm is 41,750;
- [4] the quantum yield is 0.41; and
- [5] the pH sensitivity of light absorption property is pKa < approximately 4.0.

5. (Original) A chromoprotein derived from *Actinia equina*, which has the following properties:

- [1] the absorption maximum wavelength is 592 nm;
- [2] the molar absorption coefficient at 592 nm is 87,000; and

[3] the pH sensitivity of light absorption property is stable in the range between pH 5 and 10.

6. (Original) A fluorescent protein derived from *Lobophytum crassum*, which has the following properties:

- [1] the excitation maximum wavelength is 482 nm;
- [2] the fluorescence maximum wavelength is 498 nm;
- [3] the molar absorption coefficient at 482 nm is 71,000;
- [4] the quantum yield is 0.41; and
- [5] the pH sensitivity of the fluorescence maximum is stable in the range between pH 4 and 10.

7. (Original) A fluorescent protein having either the following amino acid sequence (a) or (b):

- (a) an amino acid sequence shown in SEQ ID NO: 1; or
- (b) an amino acid sequence, which comprises a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 1, and which has a fluorescence.

8. (Original) A fluorescent protein having either the following amino acid sequence (a) or (b):

- (a) an amino acid sequence shown in SEQ ID NO: 3; or

(b) an amino acid sequence, which comprises a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 3, and which has a fluorescence.

9. (Original) A fluorescent protein having either the following amino acid sequence (a) or (b):

(a) an amino acid sequence shown in SEQ ID NO: 5 or 7; or

(b) an amino acid sequence, which comprises a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 5 or 7, and which has a fluorescence.

10. (Original) A fluorescent protein having either the following amino acid sequence (a) or (b):

(a) an amino acid sequence shown in SEQ ID NO: 9; or

(b) an amino acid sequence, which comprises a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 9, and which has a fluorescence.

11. (Original) A chromoprotein having either the following amino acid sequence (a) or (b):

(a) an amino acid sequence shown in SEQ ID NO: 11; or

(b) an amino acid sequence, which comprises a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 11, and which has light-absorbing properties.

12. (Original) A fluorescent protein having either the following amino acid sequence (a) or (b):

(a) an amino acid sequence shown in SEQ ID NO: 13; or

(b) an amino acid sequence, which comprises a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 13, and which has fluorescence.

13. (Currently amended) DNA encoding the protein according to ~~any one of~~ claims claim 1 to 12.

14. (Original) DNA of either the following (a) or (b):

(a) DNA encoding an amino acid sequence shown in SEQ ID NO: 1; or

(b) DNA which has an amino acid sequence comprising a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 1, and which encodes a fluorescent protein.

15. (Original) DNA having either the following nucleotide sequence (a) or (b):

(a) a nucleotide sequence shown in SEQ ID NO: 2; or

(b) a nucleotide sequence which comprises a deletion, substitution, and/or addition of one or several nucleotides with respect to the nucleotide sequence shown in SEQ ID NO: 2, and which encodes a fluorescent protein.

16. (Original) DNA of either the following (a) or (b):

(a) DNA encoding an amino acid sequence shown in SEQ ID NO: 3; or

(b) DNA which has an amino acid sequence comprising a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 3, and which encodes a fluorescent protein.

17. (Original) DNA having either the following nucleotide sequence (a) or (b):

(a) a nucleotide sequence shown in SEQ ID NO: 4; or

(b) a nucleotide sequence which comprises a deletion, substitution, and/or addition of one or several nucleotides with respect to the nucleotide sequence shown in SEQ ID NO: 4, and which encodes a fluorescent protein.

18. (Original) DNA of either the following (a) or (b):

(a) DNA encoding an amino acid sequence shown in SEQ ID NO: 5 or 7; or

(b) DNA which has an amino acid sequence comprising a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 5 or 7, and which encodes a fluorescent protein.

19. (Original) DNA having either the following nucleotide sequence (a) or (b):

(a) a nucleotide sequence shown in SEQ ID NO: 6 or 8; or

(b) a nucleotide sequence which comprises a deletion, substitution, and/or addition of one or several nucleotides with respect to the nucleotide sequence shown in SEQ ID NO: 6 or 8, and which encodes a fluorescent protein.

20. (Original) DNA of either the following (a) or (b):

(a) DNA encoding an amino acid sequence shown in SEQ ID NO: 9; or

(b) DNA which has an amino acid sequence comprising a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 9, and which encodes a fluorescent protein.

21. (Original) DNA having either the following nucleotide sequence (a) or (b):

(a) a nucleotide sequence shown in SEQ ID NO: 10; or

(b) a nucleotide sequence which comprises a deletion, substitution, and/or addition of one or several nucleotides with respect to the nucleotide sequence shown in SEQ ID NO: 10, and which encodes a fluorescent protein.

22. (Original) DNA of either the following (a) or (b):

(a) DNA encoding an amino acid sequence shown in SEQ ID NO: 11; or

(b) DNA which has an amino acid sequence comprising a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 11, and which encodes a protein having light-absorbing properties.

23. (Original) DNA having either the following nucleotide sequence (a) or (b):

(a) a nucleotide sequence shown in SEQ ID NO: 12; or

(b) a nucleotide sequence which comprises a deletion, substitution, and/or addition of one or several nucleotides with respect to the nucleotide



sequence shown in SEQ ID NO: 12, and which encodes a protein having light-absorbing properties.

24. (Original) DNA of either the following (a) or (b):

(a) DNA encoding an amino acid sequence shown in SEQ ID NO: 13; or

(b) DNA which has an amino acid sequence comprising a deletion, substitution, and/or addition of one or several amino acids with respect to the amino acid sequence shown in SEQ ID NO: 13, and which encodes a fluorescent protein.

25. (Original) DNA having either the following nucleotide sequence (a) or (b):

(a) a nucleotide sequence shown in SEQ ID NO: 14; or

(b) a nucleotide sequence which comprises a deletion, substitution, and/or addition of one or several nucleotides with respect to the nucleotide sequence shown in SEQ ID NO: 14, and which encodes a fluorescent protein.

26. (Currently amended) A recombinant vector having the DNA according to any one of claims claim 13 to 25.

27. (Currently amended) A transformant having the DNA according to ~~any one of claims claim 13 to 25 or the recombinant vector according to claim~~ 26.

28. (Currently amended) A fusion fluorescent protein, which consists of the fluorescent protein according to ~~any one of claims claim 1 to 4, 6, 7 to 10, and 12,~~ and another protein.

29. (Original) The fusion fluorescent protein according to claim 28, wherein another protein is a protein that localizes in a cell.

30. (Currently amended) The fusion fluorescent protein according to claim 28 ~~or 29~~, wherein another protein is a protein specific to a cell organella.

31. (Currently amended) A fusion protein, which consists of the chromoprotein according to claim 5 ~~or 14~~ and another protein.

32. (Currently amended) A method for analyzing the localization or dynamics of a protein in a cell, which is characterized in that the fusion fluorescent protein according to ~~any one of claim 28 to 30~~ is allowed to express in the cell.

33. (Currently amended) A method for analyzing physiologically active substances, which is characterized in that the FRET (fluorescence resonance energy transfer) method is carried out using the chromoprotein according to claim 5 or 11 as an acceptor protein.

34. (Currently amended) A fluorescent reagent kit, which comprises: the fluorescent protein of ~~any one of claims~~ claim 1 to 4, 6, 7 to 10, and 12; the ~~DNA of any one of claims 14 to 21, 24, and 25; the recombinant vector of claim 26; the transformant of claim 27; or the fusion fluorescent protein of any of claims 28 to 30.~~

35. (Currently amended) An absorbance reagent kit, which comprises: the chromoprotein of claim 5 or 11; ~~the DNA of claim 22 or 23; the recombinant vector of claim 26; the transformant of claim 27; or the fusion protein of claim 31.~~